

COMPUTER SYSTEM

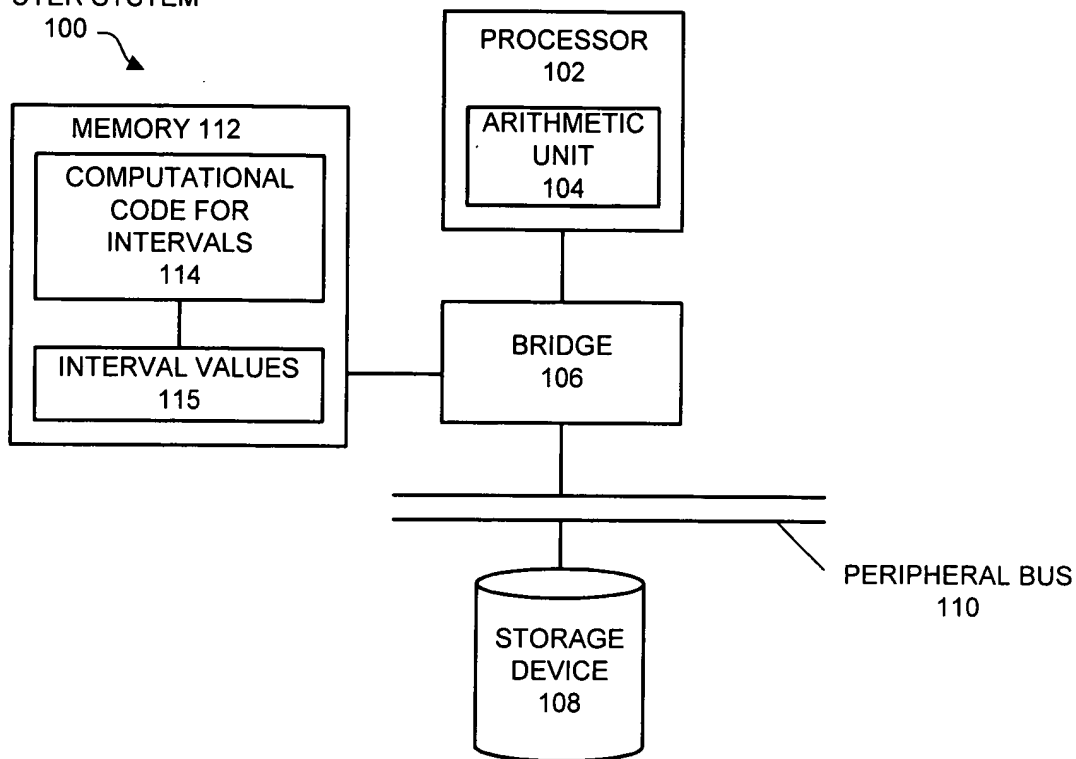


FIG. 1

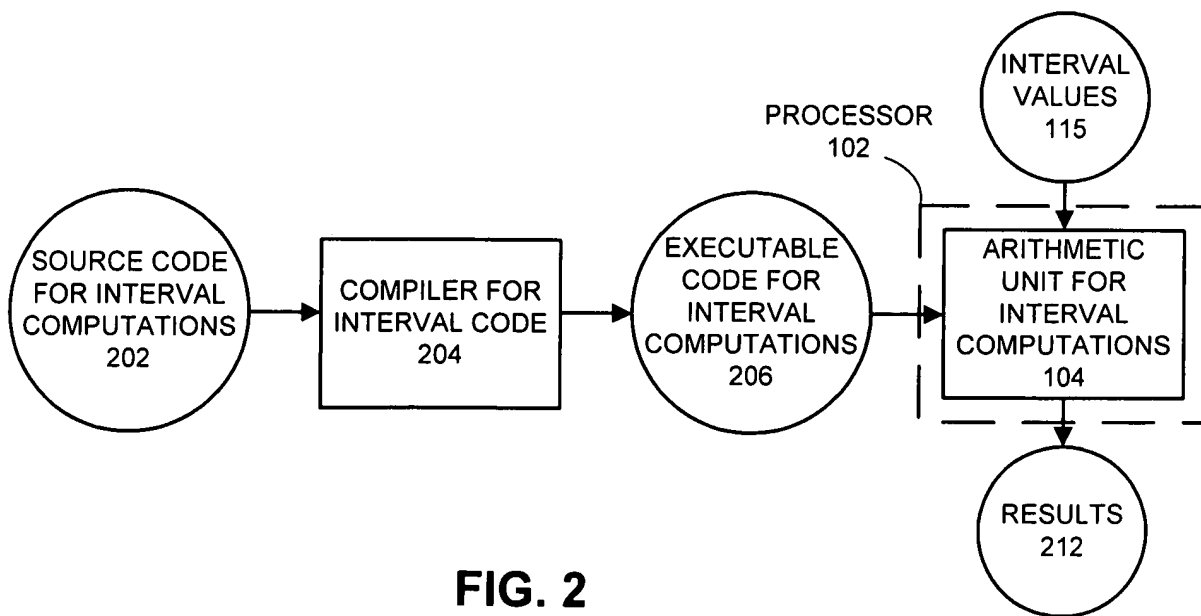


FIG. 2

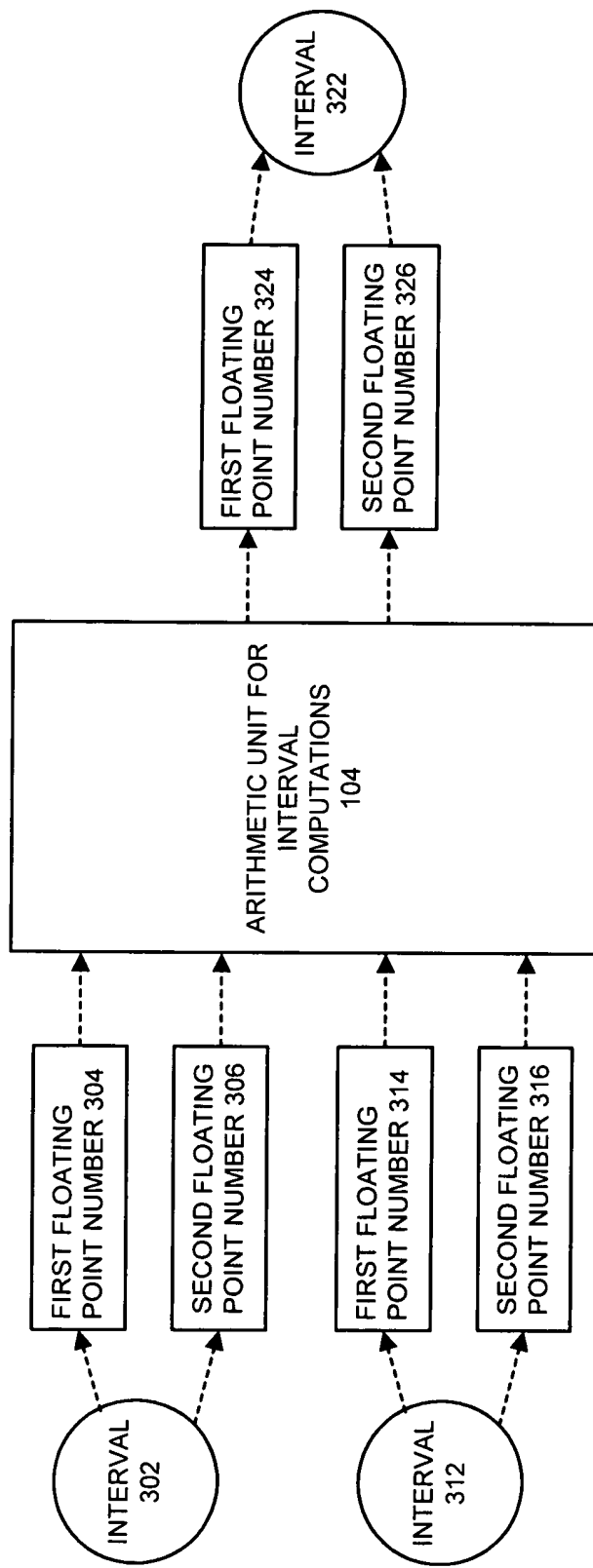


FIG. 3

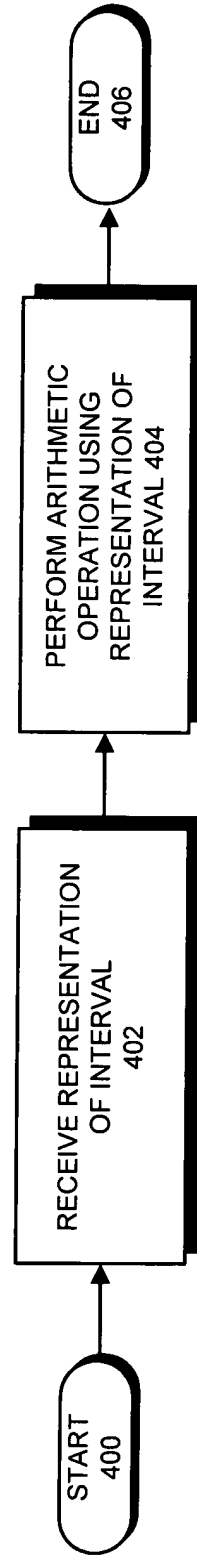


FIG. 4

$$X \equiv [\underline{x}, \bar{x}] \equiv \{x \in \mathfrak{R}^* | \underline{x} \leq x \leq \bar{x}\}$$

$$Y \equiv [\underline{y}, \bar{y}] \equiv \{y \in \mathfrak{R}^* | \underline{y} \leq y \leq \bar{y}\}$$

$$(1) \quad X + Y = [\downarrow \underline{x} + \underline{y}, \uparrow \bar{x} + \bar{y}]$$

$$(2) \quad X - Y = [\downarrow \underline{x} - \bar{y}, \uparrow \bar{x} - \underline{y}]$$

$$(3) \quad X \times Y = [\min(\downarrow \underline{x} \times \underline{y}, \underline{x} \times \bar{y}, \bar{x} \times \underline{y}, \bar{x} \times \bar{y}), \max(\uparrow \underline{x} \times \underline{y}, \underline{x} \times \bar{y}, \bar{x} \times \underline{y}, \bar{x} \times \bar{y})]$$

$$(4) \quad X / Y = [\min(\downarrow \underline{x} / \underline{y}, \underline{x} / \bar{y}, \bar{x} / \underline{y}, \bar{x} / \bar{y}), \max(\uparrow \underline{x} / \underline{y}, \underline{x} / \bar{y}, \bar{x} / \underline{y}, \bar{x} / \bar{y})], \text{ if } 0 \notin Y$$

$$X / Y = \mathfrak{R}^*, \text{ if } 0 \in Y$$

FIG. 5

INTERVAL

REPRESENTATION

$[\text{empty}]$	$[NaN_{\emptyset}, NaN_{\emptyset}]$	(1)
$[-\infty, +\infty]$	$[-inf, +inf]$	(2)
$\{-\infty, +\infty\}$	$[+inf, -inf]$	(3)
$[-\delta, b], -fp_max \leq b \leq +fp_max$	$[-inf, B]$	(4)
$[a, b], a < b$	$[A, B]$	(5)
$[a, 0], -fp_max \leq a \leq -fp_min$	$[A, +0]$	(6)
$[0, 0]$	$[-0, +0]$	(7)
$[\epsilon, b], +fp_min \leq b \leq +fp_max$	$[+0, B]$	(8)
$[a, -\epsilon], -fp_max \leq a \leq -fp_min$	$[A, -0]$	(9)
$[0, b], +fp_min \leq b \leq +fp_max$	$[-0, B]$	(10)
$[a, +\delta], -fp_max \leq a \leq +fp_max$	$[A, +inf]$	(11)
$[-\infty, b], -fp_max \leq b \leq +fp_max$	$[+inf, B]$	(12)
$[a, +\infty], -fp_max \leq a \leq +fp_max$	$[A, -inf]$	(13)
$[-\infty, a] \cup [b, +\infty]$ $-fp_max \leq a < b \leq +fp_max$	$[B, A]$	(14)

FIG. 6